

Amendments to the Claims

This listing of the claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.-20. (canceled)

21. (currently amended) An implantable electrode comprising:

an electrode body having a substrate surface; and
a surface coating on said substrate surface,

said surface coating comprised of a gradient composition, said gradient composition further comprised of a plurality of alternating layers of platinum and iridium oxide.

22. (original) The implantable electrode of claim 21, wherein said substrate surface is comprised of platinum gray.

23. (canceled)

24. (original) The implantable electrode of claim 21, wherein said substrate surface is a rough surface.

25. (original) The implantable electrode of claim 24, wherein said rough surface is a sandblasted surface.

26. (original) The implantable electrode of claim 24, wherein said rough surface is an abraded surface.

27. (canceled)

28. (original) The implantable electrode of claim 21, wherein said gradient composition is comprised of electroplated material.

29. (previously presented) The implantable electrode of claim 21, wherein said gradient composition is an approximately linear gradient from essentially pure platinum to essentially pure iridium oxide.

30. (currently amended) The implantable electrode of claim 21, wherein at least one layer in said plurality of alternating layers ~~said gradient composition~~ is comprised of a fraction of platinum and a complementary fraction of iridium oxide.

31. (previously presented) The implantable electrode of claims 21, wherein said gradient composition varies stepwise in composition.

32. (previously presented) The implantable electrode of claim 21, wherein the platinum in the gradient composition is platinum gray.

33. (previously presented) The implantable electrode of claim 21, wherein the substrate surface is made of a biocompatible material with platinum or titanium conductive traces.

34. (currently amended) An implantable electrode comprising:

a substrate; and

a surface coating, said surface coating comprising platinum and iridium oxide;

wherein amount of platinum with respect to iridium oxide gradually decreases ~~varies~~ along a distance from the substrate.

35. (currently amended) The implantable electrode of claim 34, wherein the amount of platinum with respect to iridium oxide ~~varies~~ decreases linearly along the distance from the substrate.

36. (currently amended) The implantable electrode of claim 34, wherein the amount of platinum with respect to iridium oxide ~~varies~~ decreases along the distance from the substrate from essentially platinum next to the substrate to essentially iridium oxide.

37. (previously presented) The implantable electrode of claim 34, wherein the substrate is made of a material selected from the group consisting of metal, polymer and ceramic.

38. (previously presented) The implantable electrode of claim 37, wherein the metal is platinum gray.

39. (previously presented) An electrode array comprising a plurality of electrodes in accordance with claim 34.

40. (previously presented) An electrode comprising an electrode base and an electrode top surface, wherein:

the electrode top surface is essentially made of iridium oxide;

the electrode base is essentially made of platinum;

sections of the electrode between the electrode base and the electrode top surface comprise platinum and iridium oxide; and

amount of iridium oxide and platinum in the electrode between the electrode base and the electrode top surface varies between essentially platinum and essentially iridium oxide.